

DBSLDR  
ADDR CODE

SD SYSTEMS Z80 ASSEMBLER PAGE 0001

STMT SOURCE STATEMENT

```
0001          NAME      DBSLDR
0003 ;*****
0004 ;
0005 ;          PROGRAM ID:      DDBIOS LOADER
0006 ;
0007 ;          VERSION:        2.2          RELEASE 2
0008 ;
0009 ;*****
0010 ;
0011 ;          PROPERTY OF:      JADE COMPUTER PRODUCTS
0012 ;                          4901 W. ROSECRANS BLVD.
0013 ;                          HAWTHORNE, CALIFORNIA
0014 ;                          90250, U.S.A.
0015 ;
0016 ;*****
0017 ; THE BIOS LOADER IS READ INTO THE DCM SECTOR BUFFER *
0018 ; AFTER DCM HAS INITIALIZED. THE BIOS LOADER PROGRAM *
0019 ; IS THEN EXECUTED WHICH READS THE DDBIOS MODULE *
0020 ; INTO BANK 1. THE COMMAND BLOCK (IN DCM) IS SET TO *
0021 ; INDICATE DDBIOS MODULE SIZE AND THE SYSTEM LOAD *
0022 ; ADDRESS. THE BIOS LOADER PROGRAM IS GENERATED BY *
0023 ; MOVCPM.COM AS THE COLD START LOADER (900-97F HEX). *
0024 ; THIS MODULE IS PROVIDED FOR REFERENCE PURPOSES. *
0025 ;*****
0026 ; THE DDBIOS LOADER IS COMPATABLE WITH REV B AND C *
0027 ; DOUBLE D CONTROLLER BOARDS. IT IS COMPATABLE WITH *
0028 ; FD1791-01 / FD1793-01. IT WILL ALSO FUNCTION WITH *
0029 ; THE CURRENT FD179X-02 SERIES.
0030 ;*****
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ADDR CODE

STMT SOURCE STATEMENT

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0032 ;*****
0033 ; CONTROLLER PORT ASSIGNMENTS *
0034 ;*****
0035
>0000 0036 BL$STS EQU 000H ;BOARD STATUS
>0000 0037 BL$CTL EQU 000H ;BOARD CONTROLS
>0004 0038 WD$CMD EQU 004H ;179X-02 COMMAND REGISTER
>0004 0039 WD$STS EQU 004H ;179X-02 STATUS REGISTER
>0006 0040 WD$SEC EQU 006H ;179X-02 SECTOR REGISTER
>0007 0041 WD$DTA EQU 007H ;179X-02 DATA REGISTER
>0010 0042 XP$MTO EQU 010H ;MOTOR TIME OUT
>0040 0043 XP$MTX EQU 040H ;MOTOR TIME EXTEND
>0080 0044 XP$DSH EQU 080H ;DATA SYNC HOLD
0045
0046 ;*****
0047 ; 179X-02 COMMAND AND MASK. *
0048 ;*****
0049
>0088 0050 DC$RDS EQU 10001000B ;READ SECTOR.
>009C 0051 DM$RER EQU 10011100B ;READ ERROR MASK.
0052
0053 ;*****
0054 ; SYSTEM ASSIGNMENTS *
0055 ;*****
0056
>0014 0057 NMBR$K EQU 20 ;SYSTEM SIZE IN K.
>0400 0058 LNG$1K EQU 1024 ;TOTAL BYTES IN 1K.
>5000 0059 CPM$SZ EQU NMBR$K*LNG$1K ;TOTAL SYSTEM BYTES.
>0600 0060 BIOS$S EQU LNG$1K*3/2 ;BIOS ALLOCATED SIZE.
>4A00 0061 BIOS$A EQU CPM$SZ-BIOS$S ;BIOS LOAD ADDRESS.
0062
0063 ;*****
0064 ; INTERNAL MEMORY ASSIGNMENTS *
0065 ;*****
0066
>1000 0067 BANK$0 EQU 1000H ;LOWER BANK ADDRESS.
>0400 0068 BANK$L EQU 0400H ;1K BANK LENGTH.
>1400 0069 BANK$1 EQU BANK$0+BANK$L ;UPPER BANK ADDRESS.
>1370 0070 IO$BLK EQU BANK$0+0370H ;I/O BLOCK ADDRESS.
>1377 0071 CB$STS EQU IO$BLK+0007H ;COMMAND STATUS BYTE.
>1378 0072 CW$LAD EQU IO$BLK+0008H ;BIOS LOAD ADDR LOC.
>137A 0073 CW$LNG EQU IO$BLK+000AH ;BIOS LOAD LENGTH LOC.
>1380 0074 SEC$BF EQU BANK$0+0380H ;SECTOR BUFFER AREA.
0075
0076 ;*****
0077 ; BIOS PROGRAM LINKAGE. *
0078 ;*****
0079
>0004 0080 SEC$BG EQU 4 ;FIRST BIOS SECTOR.
>0008 0081 SEC$NM EQU 8 ;NUMBER OF SECTORS.
>000B 0082 SEC$EX EQU SEC$BG+SEC$NM-1 ;LAST BIOS SECTOR.
0083
0084 ;*****

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ADDR	CODE	STMT	SOURCE STATEMENT
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		0086	;*****	
		0087	; ASSEMBLER DIRECTIVES *	
		0088	;*****	
		0089		
		0090	PSECT	ABS ;ABSOLUTE ADDRESSING.
>1380		0091	ORG	SEC\$BF ;PROGRAM START POINT.
		0092		
		0093	;*****	
		0094	; INITIALIZE BIOS READ OPERATION *	
		0095	;*****	
		0096		
1380	210004	0097	BEGIN: LD	HL,LNG\$1K ;BIOS LOAD LENGTH.
1383	227A13	0098	LD	(CW\$LNG),HL ;LOAD LENGTH SET.
1386	21004A	0099	LD	HL,BIOS\$A ;BIOS SYSTEM ADDR.
1389	227813	0100	LD	(CW\$LAD),HL ;LOAD ADDRESS SET.
138C	210014	0101	LD	HL,BANK\$1 ;BIOS LOAD POINT.
		0102		
		0103	;*****	
		0104	; SET-UP FOR EACH READ SECTOR COMMAND *	
		0105	;*****	
		0106		
138F	FD21A813	0107	RD\$SEC: LD	IY,RD\$TST ;SET NMI VECTOR.
1393	3AC413	0108	LD	A,(SECTOR) ;FIRST BIOS SECTOR.
1396	A9	0109	XOR	C ;INVERT (1791-01).
1397	D306	0110	OUT	(WD\$SEC),A ;SET 179X-02 SEC REG.
1399	3E88	0111	LD	A,DC\$RDS ;READ SECTOR CMND.
139B	A9	0112	XOR	C ;INVERT (1791-01).
139C	D304	0113	OUT	(WD\$CMD),A ;ISSUE 179X-02 COMMAND.
		0114		
		0115	;*****	
		0116	; READ SECTOR OPERATION *	
		0117	;*****	
		0118		
139E	DB80	0119	RD\$BYT: IN	A,(XP\$DSH) ;WAIT FOR DATA.
13A0	DB07	0120	IN	A,(WD\$DTA) ;INPUT INV DATA.
13A2	A9	0121	XOR	C ;INVERT (1791-01).
13A3	77	0122	LD	(HL),A ;STORE DCM BYTE.
13A4	23	0123	INC	HL ;INCREMENT POINTER.
13A5	C39E13	0124	JP	RD\$BYT ;REPEAT OPERATION.
		0125		
		0126	;*****	

ADDR	CODE	STMT	SOURCE	STATEMENT
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		0128	;*****	
		0129	; CHECK READ SECTOR STATUS, REPEAT UNTIL BIOS LOADED *	
		0130	;*****	
		0131		
13A8	E69C	0132	RD\$TST: AND	DM\$RER ;TEST FOR ERRORS.
13AA	200D	0133	JR	NZ,ERRORS ;ERROR DETECTED.
13AC	3AC413	0134	LD	A,(SECTOR) ;GET SECTOR NMBR.
13AF	FE0B	0135	CP	SEC\$EX ;CHECK IF LAST SEC.
13B1	280F	0136	JR	Z,FINISH ;GO IF FINISHED.
13B3	3C	0137	INC	A ;INCREMENT.
13B4	32C413	0138	LD	(SECTOR),A ;STORE SECTOR NUMBER.
13B7	18D6	0139	JR	RD\$SEC ;READ NEXT SECTOR.
		0140		
		0141	;*****	
		0142	; READ ERROR HAS BEEN DETECTED *	
		0143	;*****	
		0144		
13B9	327713	0145	ERRORS: LD	(CB\$STS),A ;DISPLAY ERROR STATUS.
13BC	AF	0146	XOR	A ;ZERO A REGISTER.
13BD	D300	0147	OUT	(BL\$CTL),A ;DESELECT DRIVE.
13BF	DB10	0148	IN	A,(XP\$MTO) ;MOTOR OFF!
13C1	76	0149	HALT	;TERMINATE.
		0150		
		0151	;*****	
		0152	; BIOS SECTOR HAVE BEEN LOADED *	
		0153	;*****	
		0154		
13C2	FB	0155	FINISH: EI	;ENABLE INTERRUPTS.
13C3	76	0156	HALT	;SHUTDOWN BOARD.
		0157		
		0158	;*****	
		0159	; SECTOR NUMBER STORAGE *	
		0160	;*****	
		0161		
13C4	04	0162	SECTOR: DEFB	SEC\$BG ;SECTOR COUNTER.
		0163		
		0164	;*****	
		0165	END	

ADDR	CODE	STMT	SOURCE	STATEMENT
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## CROSS REFERENCE LISTING

SYMBOL	VALUE	TYPE	STMT	STATEMENT	REFERENCES
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BANK\$0	1000		0067	0074	0070 0069
BANK\$1	1400		0069	0101	
BANK\$L	0400		0068	0069	
BEGIN	1380		0097		
BIOS\$A	4A00		0061	0099	
BIOS\$S	0600		0060	0061	
BL\$CTL	0000		0037	0147	
BL\$STS	0000		0036		
CB\$STS	1377		0071	0145	
CPM\$SZ	5000		0059	0061	
CW\$LAD	1378		0072	0100	
CW\$LNG	137A		0073	0098	
DC\$RDS	0088		0050	0111	
DM\$RER	009C		0051	0132	
ERRORS	13B9		0145	0133	
FINISH	13C2		0155	0136	
IO\$BLK	1370		0070	0073	0072 0071
LNG\$1K	0400		0058	0097	0060 0059
NMBR\$K	0014		0057	0059	
RD\$BYT	139E		0119	0124	
RD\$SEC	138F		0107	0139	
RD\$TST	13A8		0132	0107	
SEC\$BF	1380		0074	0091	
SEC\$BG	0004		0080	0162	0082
SEC\$EX	000B		0082	0135	
SEC\$NM	0008		0081	0082	
SECTOR	13C4		0162	0138	0134 0108
WD\$CMD	0004		0038	0113	
WD\$DTA	0007		0041	0120	
WD\$SEC	0006		0040	0110	
WD\$STS	0004		0039		
XP\$DSH	0080		0044	0119	
XP\$MT0	0010		0042	0148	
XP\$MTX	0040		0043		
ERRORS=0000					

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